

allow us to pin down the apple's identity: (1) Before its use, man ate from garden trees (woody plants)<sup>4</sup>; afterward he ate from field herbs (non-woody plants).<sup>5</sup> (2) Before its use earth was fertile; afterward it was not ("cursed is the ground because of you").<sup>6</sup> (3) After its use women had trouble raising children ("in sorrow thou shalt bring forth children").<sup>7</sup> (4) And although man was clearly warned away from this "tree" its fruit was pleasant and enticing.<sup>8</sup>

Next, let us use science to examine *nature*: (1) Field plants (grains, tubers) are starchy, and because starch is not bioavailable to humans without cooking (personal communication: July 11, 1977, John Yudkin, MB), by the time they were eating field herbs people must have been using thermal heat to prepare food. (2) When experimental animals were fed a cooked diet compared with an uncooked one of the same composition their manure decreased in fertility about 80 percent.<sup>9</sup> As humans have adopted the practice of letting land lie fallow at intervals or moving when land wore out, we may assume that manure from humans eating cooked food is not optimally fertile.<sup>10</sup> (3) Offspring born to experimental animals eating cooked food were sickly, hard to raise and often died compared with healthy offspring born to those eating the same diet uncooked.<sup>9</sup>

Finally, the *divine imprint* on man (innate-behavior-releasing mechanisms) shows that *visiting a burn ward or shouting "fire!" in a crowded theater* elicits negative human responses. And though humans are thus warned away from fire, we find food prepared with "burning" (thermal) fire, as contrasted with "living" (ambient and metabolic) fire, smells and tastes good.

Therefore, we may tentatively conclude that the apple that "the first demagogue of nutrition cultism," Satan, induced the first men and women to eat is cooked food. If so, we are almost all nutritional cultists by time's standard, as we continue to eat this tree's (wood fire's) apple. And since humans are still following the original demagogue of nutrition cultism, should we not be patient towards those who espouse nutritional ideas with which we disagree? Sometimes we may find a useful idea among the dross—for example, Dr. Withering and digitalis.

JOHN M. DOUGLASS, MD  
Internal Medicine  
Agoura, California  
SUE N. DOUGLASS, RN  
Agoura, California  
PAUL M. FLEISS, MD, MPH  
UCLA School of Public Health  
Los Angeles

## REFERENCES

1. Herbert V: Nutrition cultism (Informed Opinion). West J Med 1981 Sep; 135:252-256
2. DeGrazia M: The secularization of language in the 17th century. J Hist Ideas 1980; 41:319-329
3. Malan SC (Translation): The Forgotten Books of Eden: The First Book of Adam and Eve. Cleveland, World Publishing Co., 1963, Vol 6, pp 9-10
4. Genesis 3:2 (RSV, 1953)
5. Genesis 3:18 (KJV)
6. Genesis 3:17 (RSV, 1953)
7. Genesis 3:16 (KJV)
8. Genesis 3:6 (RSV, 1953)
9. Pottenger FM: The effect of heat-processed foods. Am J Ortho Oral Surg 1946; 32:467-485
10. Douglas JM: Is "how vitamin C really works" medicine's best discovery? Nutr Today 1980; 15:30-33

## Pancreatic Exocrine Function Testing

TO THE EDITOR: In his article "Pancreatic Exocrine Function Testing" in the November issue,<sup>1</sup> Goff concludes that serum enzyme levels are not of great value as a means of diagnosing pancreatic exocrine insufficiency. While I would agree with this conclusion, I would differ with the reason cited with respect to isoamylase analysis. Goff states that the lack of clinical usefulness of this measurement is "the difficulty in distinguishing pancreatic from salivary amylase." On the contrary, this distinction can readily be made by several well-established technical methods.<sup>2</sup> The deficiency attaching to assay of pancreatic-type (P-type) isoamylase as an index of pancreatic insufficiency lies rather in the fact that abnormally low values for P-type isoamylase in the serum and urine of patients with pancreatic exocrine insufficiency confirmed by the secretin test occur infrequently.<sup>3</sup>

J. EDWARD BERK, MD  
Distinguished Professor  
Department of Medicine  
University of California, Irvine  
School of Medicine  
Irvine, California

## REFERENCES

1. Goff JS: Pancreatic exocrine function testing (Medical Progress). West J Med 1981 Nov; 135:368-374
2. Berk JE, Fridhandler L, Montgomery KA: Isoamylase analysis: Methods and clinical application. In Berk JE (Ed): Developments in Digestive Diseases, Vol. I. Philadelphia, Lea & Febiger, 1977, pp 133-152
3. Berk JE, Ayulo JA, Fridhandler L: Value of pancreatic-type isoamylase assay as an index of pancreatic insufficiency. Am J Dig Dis 1979; 24:6-10

## Altitude Exposure in Sickle Cell Disease

TO THE EDITOR: In regard to the article "Risk of Altitude Exposure in Sickle Cell Disease" by Claster, Bodwin and Embury in the November issue,<sup>1</sup> it is interesting to see that a retrospective study finds that there is an increased incidence of vaso-occlusive crisis during exposure to altitude above 4,000 feet in patients with sickle cell disease. It is, of course, not surprising that the incidence of such painful episodes was greater for those who spent their time visiting the mountains than for